

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-43. Canceled

44. (New) A formulation (F) intended for use in an operation of rinsing (R) textile fiber articles (S) by means of an aqueous or aqueous-alcoholic medium (MR), said formulation (F) comprising at least one active substance (A) comprising at least one solid or liquid organic or organosilicon material in particulate form and a vehicle (V) comprising at least one organic polymer, capable of taking said active substance (A) to the surface of said textile fiber articles (S) in the rinsing operation (R), in the form:

of a stable dispersion, with a pH of from 2 to 5, of said active substance (A) in an aqueous or aqueous-alcoholic medium (MAV) comprising said vehicle (V), or

in a solid form obtained by drying said dispersion,

the nature of the active substance (A), of the aqueous or aqueous-alcoholic medium (MAV), and of the vehicle (V) being such that the active substance (A) is insoluble in the medium (MAV),

has an overall zero or cationic charge in the medium (MAV),

is stabilized in the medium (MAV) by means of a cationic surfactant (TAC), it being possible for said cationic surfactant (TAC) to be wholly or partly replaced by a nonionic surfactant when the material constituting the active substance (A) is intrinsically cationic or intrinsically potentially cationic in the medium (MAV), and remains insoluble in the rinsing medium (MR);

the vehicle (V):

is soluble or dispersible in the medium (MAV) and in the rinsing medium (MR),
has an overall cationic or zero ionic charge in the medium (MAV), and
at the pH of the rinsing operation in the rinsing medium (MR) is capable of developing
anionic charges in sufficient quantity to destabilize the active substance (A) in the
rinsing medium (MR).

45. (New) The formulation according to claim 44, wherein the rinsing medium
(MR) has a pH of from 5.5 to 8.

46. (New) The formulation according to claim 44, wherein the material
constituting the active substance (A) is an oil or a meltable solid.

47. (New) The formulation according to claim 44, wherein the particles of active
substance (A) have an average diameter ranging from 10 nm to 200 μm , preferably
from 10 nm to 5 μm and more preferably from 10 nm to 2 000 nm.

48. (New) The formulation according to claim 44, wherein the active substance (A)
comprises material having lubricating properties with regard to textile fiber articles.

49. (New) The formulation according to claim 44, wherein the material
constituting the active substance (A) is:

nonionic polyorganosiloxanes,

polyorganosiloxanes having at least one cationic or potentially cationic function in the
medium (MAV),

amphoteric polyorganosiloxanes having at least one cationic or potentially cationic
function in the medium (MAV) and at least one function which is neutral in the
medium (MAV) and potentially anionic in the rinsing medium (MR), or

polyorganosiloxanes having at least one function which is neutral in the medium (MAV) and potentially anionic in the rinsing medium (MR).

50. (New) The formulation according to claim 49, wherein the material constituting the active substance (A) is an α - ω -bis(hydroxy)polydimethylsiloxane, an α - ω -bis-(trimethyl)polydimethylsiloxane, a polymethylphenylsiloxane or a cyclic polydimethylsiloxane, optionally in oil form.

51. (New) The formulation according to claim 49, wherein the material constituting the active substance (A) is an amino polyorganosiloxane.

52. (New) The formulation according to claim 51, wherein the amino polyorganosiloxane has hindered piperidyl groups.

53. (New) The formulation according to claim 49, wherein the polyorganosiloxane is linear.

54. (New) The formulation according to claim 44, wherein the active substance is:
mono-, di- or triglycerides of C₁-C₃₀ carboxylic acids or mixtures thereof,
sugar esters, sucroglycerides,
C₁-C₃₀ alcohol esters of C₁-C₃₀ carboxylic, C₁-C₃₀ alcohol esters of C₂-C₃₀ dicarboxylic acids,
ethylene or propylene glycol monoesters or diesters of C₁-C₃₀ carboxylic acids,
propylene glycol C₄-C₂₀ alkyl ethers,
di(C₈-C₃₀ alkyl) ethers, or
organic waxes comprising alkyl chains containing 4 to 40 carbon atoms.

Case: RDN02125
PRELIMINARY AMENDMENT

55. (New) The formulation according to claim 44, wherein the polymer constituting the active substance (A) and the surfactant (TAC) have a mass ratio of from 0.01 to 10.
56. (New) The formulation according to claim 44, wherein the cationic charges generated by the optional cationic or potentially cationic units of the material constituting the active substance (A) and by the cationic surfactant or surfactants at the surface of the material constituting the active active substance (A) in dispersion in the medium (MAV) are such that the zeta potential of said polymer or copolymer in dispersion in (MAV) is from 0 to +50 mV.
57. (New) The formulation according to claim 44, wherein the dispersion medium (MAV) for the active substance (A) is water or an aqueous-alcoholic polar medium.
58. (New) The formulation according to claim 57, wherein the alcohol or alcohols present in the aqueous-alcoholic polar medium represent up to 70% of the volume of the medium (MAV).
59. (New) The formulation according to claim 44, wherein the polymer constituting the vehicle (V) is any polymer which is soluble or dispersible in aqueous or aqueous-alcoholic medium with a pH of between 2 and 8 and which comprises at least one unit which is neutral in the medium (MAV) and potentially anionic (HA) in the rinsing medium (MR).
60. (New) The formulation according to claim 59, wherein the vehicle (V) polymer further comprises at least one unit which is cationic or potentially cationic (HC) in the medium (MAV) or at least one hydrophilic or hydrophobic nonionic unit.

61. (New) The formulation according to claim 44, wherein the various units of the polymer constituting the vehicle (V) present relative amounts which are such that in the medium (MAV) the overall charge of the polymer or copolymer is zero or cationic.

62. (New) The formulation according to claim 61, wherein the relative amounts of vehicle (V) polymer, surfactant (TAC), and material constituting the active substance (A) are such that in the course of the rinsing operation the number of anionic charges developed in the rinsing medium (MR) by the vehicle polymer (V) is sufficient to destabilize the active substance (A) in the rinsing medium (MR).

63. (New) The formulation according to claim 62, wherein the number of anionic charges developed in the rinsing medium (MR) by the vehicle (V) polymer to destabilize the active substance is at least 1% relative to the number of cationic surface charges of the active substance (A) in the medium (MR), and not more than 200% relative to the number of cationic surface charges of the active substance (A) in the medium (MR).

64. (New) The formulation according to claim 44, wherein the polymer constituting the vehicle (V) is a polymer selected from polymers derived from ethylenically unsaturated monomers, potentially anionic natural polysaccharides, potentially anionic or amphoteric substituted or modified polysaccharides.

65. (New) The formulation according to claim 4, wherein the polymer constituting the vehicle (V) is a polymer derived:

from at least one α - β monoethylenically unsaturated monomer which is neutral in the medium (MAV) and potentially anionic (HA) in the rinsing medium (MR) and

optionally at least one α - β monoethylenically unsaturated monomer which is cationic or potentially cationic (HC) in the medium (MAV), and optionally at least one nonionic α - β monoethylenically unsaturated monomer which is hydrophilic or hydrophobic, preferably hydrophilic.

66. (New) The formulation according to claim 44, wherein the polymer constituting the vehicle (V) is a random, block or graft copolymer derived:

from at least one α - β monoethylenically unsaturated hydrophilic monomer which is neutral in the medium (MAV) and potentially anionic (HA) in the rinsing medium (MR) and

from at least one α - β monoethylenically unsaturated hydrophilic monomer which is cationic or potentially cationic (HC) in the medium (MAV), and optionally from at least one nonionic α - β monoethylenically unsaturated monomer which is hydrophilic or hydrophobic, preferably hydrophilic.

67. (New) The formulation according to claim 44, wherein the polymer constituting the vehicle (V) derives from one or more α - β monoethylenically unsaturated monomers and has an average molar mass of greater than 5 000 g/mol.

68. (New) The formulation according to claim 1) to 24), wherein the polymer constituting the vehicle (V) is:

polyacrylic or polymethacrylic acids, alkali metal polyacrylates or polymethacrylates, with a molar mass by weight of from 100 000 to 1 000 000 g/mol,

acrylic acid/DADMAC copolymers, with a molar ratio of 50/50 to 30/70, and with a molar mass by weight of from 70 000 to 350 000 g/mol

acrylic acid/MAPTAC copolymers, with a molar ratio of 60/40 to 30/70, with a molar mass by weight of from 90 000 to 300 000 g/mol,

acrylic acid/MAPTAC/linear C₄-C₁₈ alkyl methacrylate terpolymers

comprising 0.005 to 10% by mass of alkyl methacrylate, with an acrylic acid/MAPTAC molar ratio ranging from 60/40 to 30/70, and having a molar mass by weight of from 50 000 to 250 000 g/mol, or

acrylic acid/dimethylaminoethyl methacrylate (DMAEMA) copolymers, with a molar ratio of 60/40 to 30/70, with a molar mass by weight of from 50 000 to 300 000 g/mol.

69. (New) The formulation according to claim 44, wherein the polymer constituting the vehicle (V) is a potentially anionic natural polysaccharide formed of nonionic monosaccharide units and of monosaccharide units which are neutral in the medium (MAV) and potentially anionic in the rinsing medium (MR), and are identical or different.

70. (New) The formulation according to claim 69, wherein said potentially anionic natural polysaccharide is a branched polysaccharide formed of a main chain comprising alike or different anhydrohexose units and of branches comprising at least one anhydropentose or anhydrohexose unit which is neutral in the medium (MAV) and optionally potentially anionic in the rinsing medium (MR).

71. (New) The formulation according to claim 70, wherein said potentially anionic natural polysaccharide is a xanthan gum, a succinoglycan, a rhamsan, a gellan gum or a welan gum.

72. (New) The formulation according to claim 70, wherein said potentially anionic natural polysaccharide has a molar mass by weight of from 2 000 to 5 000 000.

73. (New) The formulation according to claim 44, wherein the polymer constituting the vehicle (V) is a substituted or modified polysaccharide whose native skeleton is formed of nonionic monosaccharide units or of monosaccharide units which are neutral in the medium (MAV) and potentially anionic in the rinsing medium (MR), said monosaccharide units being alike or different and being substituted or modified by one or more groups which carry at least one charge which is neutral in the medium (MAV) and potentially anionic in the medium (MR), and, optionally, by one or more groups which carry at least one charge which is cationic or potentially cationic in the medium (MAV),

the degree of substitution or modification of the monosaccharide units by the entirety of the groups which carry charges which are potentially anionic and of optional groups which carry cationic charges being such that said substituted or modified polysaccharide is soluble or dispersible in aqueous or aqueous-alcoholic medium and has an overall cationic or zero charge in the medium (MAV).

74. (New) The formulation according to claim 73, wherein said substituted or modified polysaccharide further comprises at least one nonionic modifying or substituent group.

75. (New) The formulation according to claim 73, wherein said substituted or modified polysaccharide is a substituted or modified branched polysaccharide whose native skeleton is formed of a main chain comprising alike or different anhydrohexose

units and of branches comprising at least one anhydropentose and/or anhydrohexose unit which is neutral in the medium (MAV), and, optionally, potentially anionic in the rinsing medium (MR),

the anhydrohexose and/or anhydropentose units of said polysaccharide being substituted or modified by one or more groups which carry at least one charge which is neutral in the medium (MAV) and potentially anionic in the medium (MR) and optionally at least one charge which is cationic or potentially cationic in the medium (MAV),

the degree of substitution or modification DS_i of the anhydrohexose and/or anhydropentose units by the entirety of said groups which carry charges which are ionic or potentially ionic ranging from 0.01 to less than 3, with a ratio of the number of potentially anionic charges in the medium (MR) to the number of cationic or potentially cationic charges in the medium (MAV) ranging from 100/0 to 30/70.

76. (New) The formulation according to claim 72, wherein said substituted or modified polysaccharide has a molar mass by weight of from 2 000 to 5 000 000 g/mol.

77. (New) The formulation according to claim 72, wherein the native skeleton of said substituted or modified polysaccharide is a galactomannan.

78. (New) The formulation according to claim 72, wherein the native skeleton of said substituted or modified polysaccharide is:

carboxymethylgalactomannans, carboxymethylguars,

carboxymethylhydroxypropylgalactomannans,
carboxymethylhydroxypropylguars,
carboxymethyl-hydroxypropyltrimethylammonium chloride galactomannans,
carboxymethyl-hydroxypropyltrimethylammonium chloride guars,
carboxymethylhydroxypropyl-hydroxypropyltrimethylammonium chloride
galactomannans, or carboxymethyl-hydroxypropyl-
hydroxypropyltrimethylammonium chloride guars.

79. (New) The formulation according to claim 44, wherein the amount of vehicle (V) present in said formulation is from 0.01 to 5 parts by weight, per 100 parts by weight of active substance (A).

80. (New) The formulation according to claim 44, being in the form of an aqueous or aqueous-alcoholic dispersion comprising per 100 parts of its weight:

from 0.01 to 40 parts, by dry weight of active substance (A),

from 0.01 to 50 parts, by dry weight of surfactant (TAC), and

from 0.001 to 4 parts, by dry weight of vehicle (V) polymer.

81. (New) The formulation according to claim 44, further comprising one or more customary constituents of cationic rinsing formulations, selected from the group consisting of cationic softeners, optical brighteners, color transfer inhibitors, water-soluble monovalent mineral salts, dyes, fragrances, foam suppressants, enzymes and bleaches.

82. (New) A process for treating textile fiber articles comprising the step of contacting said articles in the course of a rinsing operation in aqueous or aqueous-

alcoholic medium with the rinsing formulation (F) as defined in claim 44, and recovering said rinsed articles.

83. (New) A process intended to enhance the antiwrinkle, easy-iron, soil release or abrasion resistance properties of textile fiber articles, comprising the steps of a) contacting said articles in the course of a rinsing operation in aqueous or aqueous-alcoholic medium with the rinsing formulation (F) as defined in claim 44, and b) in recovering said rinsed articles.

84. (New) The processes according to claim 82, wherein the formulation is employed in an amount, expressed in terms of dry matter, of from 0.001 to 5 g/l in the rinsing bath.